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In Re: Patent Term Extension  
Application for  
U.S. Patent No. 6,143,771

**DECISION DENYING APPLICATION FOR PATENT TERM EXTENSION  
FOR U.S. PATENT NO. 6,143,771**

This is in response to the application for extension of the term of U.S. Patent No. 6,143,771 ("the '771 patent") under 35 U.S.C. § 156, filed in the United States Patent and Trademark Office (USPTO) on May 25, 2005, and the request for reconsideration, filed on January 27, 2006. The application was filed by AstraZeneca AB ("Applicant"). Extension is sought based upon the premarket review under § 505 of the Federal Food, Drug, and Cosmetic Act of the human drug product known by the tradename NEXIUM® I.V., having the active ingredient esomeprazole sodium, which was approved for commercial use and sale by the Food and Drug Administration (FDA) on March 31, 2005. Because NEXIUM® I.V. (esomeprazole sodium) does not constitute the first permitted commercial marketing or use of the product under the provision of law under which the regulatory review period occurred, Applicant's request for extension of the patent term of the '771 patent is **DENIED**.

**A. Factual Background**

On March 31, 2005, Applicant received a letter from the FDA indicating that NEXIUM® I.V. (esomeprazole sodium), the subject of NDA 21-689, was approved for commercial marketing or use.

On May 25, 2005, Applicant filed its application for patent term extension ("PTE Application") under 35 U.S.C. § 156(d)(1) and 37 C.F.R. § 1.720(f) with the USPTO in compliance with 37 C.F.R. § 1.740 to extend the term of the '771 patent. Applicant asserts that the '771 patent claims NEXIUM® I.V. (esomeprazole sodium). The '771 patent was issued on November 7, 2000, and expires on May 27, 2014.

On July 28, 2005, the USPTO mailed a notice of final decision, dismissing the PTE Application on grounds that NEXIUM® I.V. (esomeprazole sodium) did not constitute the first permitted commercial marketing or use of the product under the provision of law under which the regulatory review period occurred in light of the FDA's previous approval of NEXIUM® (esomeprazole magnesium) ("Dismissal"). The USPTO gave Applicant the opportunity to request reconsideration of the dismissal.

On January 27, 2006, Applicant requested reconsideration of the USPTO determination that the '771 patent is not eligible for extension under 35 U.S.C. § 156.

## B. Decision

### 1. The Plain Language of 35 U.S.C. 156(f) Shows That NEXIUM® I.V. (esomeprazole sodium) Is Not the First Permitted Commercial Marketing or Use of the "Product" As Required by 35 U.S.C. § 156(a)(5)(A)

In accordance with 35 U.S.C. § 156(e)(1), the USPTO has reviewed Applicant's PTE Application and has determined, based on the previous approval of NEXIUM® (esomeprazole magnesium), that the '771 patent, which protects NEXIUM® I.V. (esomeprazole sodium), is not eligible for a term extension. Section 156(a) of Title 35 sets forth several requirements that must be met before the Director can extend the term of a patent. See 35 U.S.C. §§ 156 (a)(1)-(a)(5), (d)(1), & (e)(1). Section 156(a)(5)(A) requires that

the permission for the commercial marketing or use of the product . . . [be] the first permitted commercial marketing or use of the product under the provision of law under which such regulatory review period occurred.

35 U.S.C. § 156(a)(5)(A) (emphasis added). The term "product" as used in section 156(a)(5)(A) is defined in section 156(f)(1) as a "drug product," and the term "drug product" is defined in section 156(f)(2) as the "active ingredient of [a] new drug, antibiotic drug, or human biological product . . . including any salt or ester of the active ingredient, as a single entity or in combination with another active ingredient." 35 U.S.C. § 156(f) (emphasis added). Hence, by the explicit terms of section 156(f)(2), "product" means "active ingredient," and "any salt or ester of the active ingredient."

By distinguishing "active ingredient" from salts and esters, the statutory language makes clear that the active ingredient cannot be a salt or an ester, but is instead the underlying molecule itself. The term "product" thus includes: (i) a non-salified and non-esterified form of a molecule (i.e., the "active ingredient"); and (ii) a salt or ester of the molecule (i.e., the "salt or ester of the active ingredient"). Because a "product" includes all three forms, i.e., the underlying molecule and its salts and esters, a non-salified, non-esterified form of a molecule is statutorily the same "product" as a salt or ester of that molecule for purposes of the patent term extension provisions in § 156.

Prior to the approval of NEXIUM® I.V. (esomeprazole sodium), the FDA approved NEXIUM® (esomeprazole magnesium). There is no dispute that esomeprazole is present in both NEXIUM® and NEXIUM® I.V. as the underlying molecule, formulated either as a magnesium salt in NEXIUM® or as a sodium salt in NEXIUM® I.V. Consequently, the approved "product" is the same for both NEXIUM® and NEXIUM® I.V. under § 156: esomeprazole and any salt or ester of esomeprazole. As such, the later approved NEXIUM® I.V. (esomeprazole sodium) does

not represent the first permitted commercial marketing or use of the “product” under the provision of law under which such regulatory review occurred. The USPTO must therefore deny Applicant’s PTE Application because it does not satisfy the requirements of section 156(a)(5)(A).

**2. Judicial Precedent Confirms That NEXIUM® I.V. (esomeprazole sodium) Is Not the First Permitted Commercial Marketing or Use of the “Product” As Required by 35 U.S.C. § 156(a)(5)(A)**

Judicial precedent confirms that the USPTO’s application of the definition of “product,” as that term is used in section 156(a)(5)(A), is correct. In Fisons v. Quigg, 1988 WL 150851 (D.D.C. 1988) (“Fisons I”), the district court addressed the meaning of the term “product.” The district court considered both the plain language of section 156(a)(5)(A) and its legislative history. With respect to the latter, the district court observed:

Upon examination, the specific purpose of Section 156(a)(5)(A) appears to have been relatively narrow—to restore lost patent life only for “pioneer” drugs. A report by the Congressional Office of Technology Assessment (“OTA”) to the 97th Congress provided the factual foundation for the restriction of patent restoration benefits to new chemical entities. The OTA report stated: “Although important pharmaceutical innovations may result from new therapeutic applications of existing chemicals . . . many of the pharmaceutical breakthroughs that have occurred have resulted from NCE (new chemical entity) research and the development of NCEs generally has required more time and money than other types of innovation and has involved greater risks.” The House Committee on Energy and Commerce explained that the bill “requires extensions to be based on the first approval of the product because the only evidence available to Congress showing that patent time has been lost is data on so-called class I, new chemical entity drugs.”

Fisons I, 1988 WL 150851 at \*7. After making these observations, the district court found that “Congress’s intent was to restore patent life only to new chemical entities.” The district court thus construed section 156(a)(5)(A) in a straightforward way:

In the definitional provision of Section 156, the term “product” is defined as a “human drug product.” 35 U.S.C. § 156(f)(1)(A). This term is further defined in the next subparagraph as “the active ingredient of a new drug, antibiotic drug, or human biological product ... including any salt or ester of the active ingredient, as a single entity or in combination with another active ingredient.” 35 U.S.C. § 156(f)(2) (emphasis added). Substituting this definition directly back into Section 156(a)(5)(A) yields the statement that a patent is ineligible for extension if it is not the first permitted commercial marketing or use of the active ingredient contained in that approved patented product.

Id. at \*5.

The Federal Circuit affirmed the district court's interpretation. Fisons v. Quigg, 876 F.2d 99 (Fed. Cir. 1989) ("Fisons II"). The Federal Circuit stated: "In sum, we hold that the district court correctly applied the definition given in 35 U.S.C. § 156(f) to the term 'product' used in section 156(a)(5)(A). We are convinced that such an interpretation comports with the intent of Congress as expressed in the statute." Fisons II, 876 F.2d at 102.

The Federal Circuit later interpreted the term "active ingredient" in Pfizer, Inc. v. Dr. Reddy's Labs., Ltd., 359 F.3d 1361 (Fed. Cir. 2004). There, the Federal Circuit accepted the FDA's definition of the term "active ingredient" as meaning "active moiety." Id. at 1366 (citing Abbreviated New Drug Application Regulations: Patent and Exclusivity Provisions, 59 Fed. Reg. 50,338, 50,358 (F.D.A. Oct. 3, 1994)). It likewise accepted that "active moiety" means "the molecule or ion excluding those appended portions of the molecule that cause the drug to be an ester, salt . . . responsible for the physiological or pharmacological action of the drug substance" based upon the FDA's regulations. Id. (quoting 21 C.F.R. § 314.108(a)) (omission in original). Hence, the Federal Circuit has construed the term "active ingredient" as used in section 156(f)(2) to mean the molecule or ion responsible for the physiological or pharmacological action of the drug, excluding those appended portions of the molecule that cause the drug to be an ester or salt (hereinafter "underlying molecule").

Substituting this definition for the word "active ingredient" as it appears in section 156, the term "drug product" in section 156(f)(2) must mean the underlying molecule as well as any salt or ester of the underlying molecule since it is defined as "active ingredient . . . including any salt or ester of the active ingredient." Further, because "product" is defined as "drug product" in section 156(f)(1)(A), "product" likewise must mean the underlying molecule as well as to any salt or ester of the underlying molecule. That definition conforms with the plain language of section 156(f). What is more, the Federal Circuit confirmed in Pfizer that only the first approval for any given "active ingredient" can trigger a patent term extension under 35 U.S.C. § 156, regardless whether that first approval was for an underlying molecule, a salt of the underlying molecule, or an ester of the underlying molecule. Pfizer, 359 F.3d at 1366 ("The statute [referring to 35 U.S.C. § 156] foresaw variation in the salt or ester of an active ingredient, and guarded against the very loophole now urged. . . . [T]he text of the statute shows that it was not intended to be defeated by simply changing the salt.").

Here, before approving NEXIUM® I.V. (esomeprazole sodium) in 2005, the FDA approved NEXIUM® (esomeprazole magnesium) in 2001. Esomeprazole is the underlying molecule in both NEXIUM® I.V. and NEXIUM®. Esomeprazole is simply formulated differently, as a magnesium salt in NEXIUM® and as a sodium salt in NEXIUM® I.V. However, that difference does not matter for purpose of section 156. The statutory definition of "product" includes the underlying molecule as well as any salt or ester of the underlying molecule. Accordingly, NEXIUM® I.V. (esomeprazole sodium) is not the first permitted

commercial marketing or use of the "product" as required by 35 U.S.C. § 156(a)(5)(A) because of the earlier approval of NEXIUM® (esomeprazole magnesium).

In the Dismissal, the USPTO explained that it "understands that esomeprazole sodium, the active ingredient of NEXIUM® I.V., is not the same active ingredient as PRILOSEC® (omeprazole), NEXIUM® (esomeprazole magnesium) or PRILOSEC® OTC (omeprazole magnesium). The difference between the active ingredient in NEXIUM® I.V. and NEXIUM® is a sodium salt and a magnesium salt of the active moiety, esomeprazole, respectively." The Dismissal incorrectly stated in the first quoted sentence that NEXIUM® I.V. and NEXIUM® do not have the same active ingredient. However, the Dismissal was correct in stating that NEXIUM® I.V. does not have the same active ingredient as PRILOSEC® (omeprazole) and PRILOSEC® OTC (omeprazole magnesium). Nevertheless, as evidenced in the second quoted sentence, the USPTO has always viewed the active moiety in both NEXIUM® I.V. (esomeprazole sodium) and NEXIUM® (esomeprazole magnesium) as being the same, namely, esomeprazole. And, as explained above, because the active moiety in NEXIUM® I.V. (esomeprazole sodium) and NEXIUM® (esomeprazole magnesium) is the same, the requirements of section 156(a)(5)(A) are not satisfied. Hence, Applicant's citation of the first quoted sentence as support for its contention that NEXIUM® I.V. (esomeprazole sodium) meets the requirements of section 156(a)(5)(A) and that the '771 patent is thereby eligible for extension is misplaced.

Finally, the FDA has issued a regulation defining the term "active ingredient" of a pharmaceutical "product" for purposes of patent term extension under 35 U.S.C. § 156. Specifically, 21 C.F.R. § 60.1 (a) states that "[t]his part [referring to Part 60] sets forth procedures and requirements for the [FDA]'s review of applications for the extension of the term of certain patents under 35 U.S.C. § 156." And, that provision further states that "[FDA] actions in this area include [*inter alia*] "[a]ssisting the [USPTO] in determining eligibility for patent term restoration." 21 C.F.R. § 60.1(a)(1). Section 60.3 then provides a series of definitions to be used in Part 60 in addition to the definitions already contained in 35 U.S.C. § 156. 37 C.F.R. § 60(b)(2) defines "active ingredient" for purposes of a patent extension to mean a drug's active moiety, *i.e.*, its therapeutically active component. It states:

Active ingredient means any component that is intended to furnish pharmacological activity or other direct effects in the diagnosis, cure, mitigation, treatment or prevention of disease, or to affect the structure or function of the body of man or of animals. The term includes those components that may undergo chemical change in the manufacture of the drug product and be present in the drug product in a modified form intended to furnish the specified activity or effect.

21 C.F.R. § 60.3 (b)(2). Applying the FDA's regulations in this case, one cannot reach a conclusion other than that esomeprazole is the "active ingredient" of both NEXIUM® and NEXIUM® I.V., formulated as a magnesium salt in the former and as a sodium salt in the latter.

### 3. Applicant's Arguments Are Unpersuasive

Applicant challenges the USPTO's dismissal of its PTE Application in several ways. First, Applicant asserts that Glaxo Operations UK, Ltd v. Quigg, 894 F.2d 392 (Fed. Cir. 1990), is binding precedent and requires the USPTO to grant its PTE Application. Second, Applicant contends that Pfizer does not apply because that case stemmed from an enforcement proceeding interpreting 35 U.S.C. § 156(b) and did not involve an eligibility determination interpreting 35 U.S.C. § 156(a). Third, Applicant argues that the policy rationale of the Drug Price Competition and Patent Term Restoration Act of 1984 ("Hatch-Waxman Act") favors granting a patent term extension for the '771 patent because an extension will not harm any generic producers but would instead harm the innovator drug company. The USPTO will address each of Applicant's arguments in turn.

#### a. Glaxo Remains Binding Precedent

In the Dismissal, the USPTO stated that "Glaxo must be treated as overruled" by Pfizer. The USPTO is persuaded by Applicant's arguments that Glaxo remains binding precedent and the USPTO erred in stating otherwise. Applicants correctly cite to Federal Circuit Rule 35, which explicitly provides that "only the court en banc may overrule a binding precedent." Applicants also correctly rely on Federal Circuit case law<sup>1</sup> indicating that a second panel may not overrule a first panel unless the second panel involves the full court, i.e., an en banc decision. Thus, the USPTO acknowledges that both Glaxo and Pfizer constitute binding Federal Circuit precedent. Nevertheless, Glaxo supports the USPTO's determination that the '771 patent is not eligible for a patent term extension for reasons explained below.

#### b. Pfizer Is Applicable

Applicant argues that Glaxo addressed the meaning of "product" in the context of eligibility under 35 U.S.C. § 156(a) whereas that Pfizer involved the scope of patent claims in an extended patent under the "rights derived" section of 35 USC § 156(b) during an enforcement action. Applicant's procedural distinction is unavailing.

Pfizer is applicable here because it addresses not only the exact statutory provision in dispute—section 156—but also the exact subparagraph in dispute—section 156(f)(2)—and the exact term in dispute—"product." It is a well-established canon of statutory construction, *in pari materia*, that a legislative body generally uses a particular word with a consistent meaning in a given context. See Erlenbaugh v. United States, 409 U.S. 239, 244 (1972). As the Supreme Court has explained, "identical words used in different parts of the same act are intended to have the same meaning." Sorenson v. Sec'y of the Treasury of the United States, 475 U.S. 851, 860 (1986) (quoting Atl. Cleaners & Dryers, Inc. v. United States, 286 U.S. 427, 433 (1932)).

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<sup>1</sup> George E. Warren Corp. v. United States, 341 F.3d 1348 (Fed. Cir. 2003); Newell Cos. v. Kenney Mfg. Co., 864 F.2d 757 (Fed. Cir. 1988); and Kimberly-Clark Corp. v. Fort Howard Paper Co., 772 F.2d 860 (Fed. Cir. 1985).

Moreover, section 156(f) makes clear that the definition of “product” is to be applied throughout section 156. Section 156(f) explicitly states that its provisions are “for purposes of this section.” Thus, the term “product” as used throughout 35 U.S.C. § 156—for eligibility under section 156(a) and for enforcement under section 156(b)—has but one meaning. And, as explained above, it means the “active ingredient” of a new drug, “including any salt or ester of the active ingredient” based on the plain language of 35 U.S.C. § 156(f)(2).

Applicant also argues that NEXIUM® I.V. (esomeprazole sodium) has a different active ingredient than NEXIUM® (esomeprazole magnesium). As such, Applicant contends that NEXIUM® I.V. (esomeprazole sodium) represents the first commercial marketing or use of the “product” under 21 U.S.C. § 355, thereby rendering the ’771 patent eligible for a patent term extension. Applicant relies on Glaxo for support, analogizing the facts here to those in Glaxo. Further, Applicant contends that Glaxo “supports the proposition that two different salt forms of the same therapeutically active substance constitute separate ‘products’ under 35 U.S.C. § 156(f)(1) for the purposes of eligibility for patent term extension.” Applicant likewise asserts that the Federal Circuit rejected a definition of “active ingredient” as encompassing an entire active moiety including all of the salts and esters of a therapeutically active compound, the definition applied by the USPTO in this case.

Starting with Applicant’s reading of Glaxo, Applicant misapprehends the scope of that decision. In Glaxo, the Federal Circuit did not address the definition of “active ingredient.” Rather, the Federal Circuit focused on the USPTO’s argument that the term “product” did not have the literal meaning set forth in section 156(f)(2), but instead meant “any ‘new chemical entity,’ i.e., ‘new active moiety.’” Rejecting that argument, the Federal Circuit explained that Congress provided a definition of the term “product” in section 156(f)(2) and that Congress “selected terms with narrow meanings that it chose from among many alternatives.” Glaxo, 894 F.2d at 399 (footnoting as examples of other possible words “new molecular entity,” “active moiety,” and “new chemical entity”). The Federal Circuit did not discuss the definition of the term “active ingredient” because, unlike here, the determination of the active ingredient was not in dispute in Glaxo.

The most that can be said about Glaxo is that the Federal Circuit acknowledged that the term “product” was not expressly defined by Congress to mean “active moiety,” since those words do not appear in section 156(f)(2). However, Glaxo does not hold that the term “active ingredient” as used in section 156(f)(2) does not mean “active moiety.” In fact, the Federal Circuit later accorded the term “active ingredient” with that precise definition in Pfizer. See Pfizer, 359 F.3d at 1366. Accordingly, the USPTO’s determination that the ’771 patent is ineligible is supported by, and consistent with, Glaxo.

Turning to Applicant’s analogy, Glaxo is factually distinguishable. As mentioned above, unlike here, the parties in Glaxo did not dispute the identification of the active ingredient. The Federal Circuit observed at the outset that “[i]t is undisputed that cefuroxime axetil is the active ingredient of CEFTIN[®] tablets.” Id. at 394. The Federal Circuit also observed that cefuroxime axetil is the ester of the underlying organic acid, cefuroxime. Thus, the only issue in Glaxo was

whether a patent protecting the ester CEFTIN® was eligible for a term extension in light of earlier approvals of two salts of the underlying organic acid, cefuroxime. The Federal Circuit concluded, after applying the plain meaning of section 156(f)(2), that the patent was eligible because the earlier salts were neither salts nor esters of the ester CEFTIN®, the “product” for which the extension was sought. *Id.* at 394.

The facts here are the opposite. The earlier approved drug, NEXIUM® (esomeprazole magnesium), is a salt of esomeprazole, the “product” for which the extension is now sought, i.e., NEXIUM® I.V. (esomeprazole sodium). That is, esomeprazole magnesium is the magnesium salt of esomeprazole, and esomeprazole is the “active ingredient” in the drug NEXIUM® I.V. (esomeprazole sodium). Esomeprazole is simply formulated as a sodium salt in NEXIUM® I.V. (esomeprazole sodium). Applicant even concedes that esomeprazole, formulated as either the magnesium salt or sodium salt, is the active ingredient in both NEXIUM® and NEXIUM® I.V., respectively. Therefore, Glaxo, in addition to Pfizer, supports the denial of Applicant’s PTE Application.

**c. Policy Does Not Favor Extension of the ’771 Patent**

Applicant argues that policy rationale weighs in favor of granting a patent term extension for the ’771 patent protecting NEXIUM® I.V. (esomeprazole sodium). Specifically, Applicant claims that a denial will harm the interests of the innovator drug company, but will not harm the interests of generic producers. Applicant is mistaken. If the USPTO granted a certificate of extension for the amount of term that Applicant asserts in its PTE Application that it is eligible to receive, a generic producer would have to wait 793 days beyond the original expiration date of the ’771 patent to enter the market and sell a generic version of NEXIUM® I.V. (esomeprazole sodium). Because of this potential delay, a generic producer and the public could be harmed by the present eligibility determination.

Moreover, an extension of the ’771 patent would contravene Congress’s intent in enacting section 156. As the district court in Fisons I explained, Congress sought to permit a patentee to extend a patent covering an “active moiety”—the molecule or ion that causes the physiological or pharmacological action of a drug—only once. See Fisons I, 1988 WL 150851 at \*7. Congress did so by enacting the provisions of section 156(a)(5)(A), requiring the approved drug to represent the first commercial marketing or use of the “product” under the provision of law under which such regulatory review period occurred. Here, Applicant is attempting to circumvent that precise prohibition set up by Congress by seeking a term extension for the ’771 patent protecting NEXIUM® I.V. (esomeprazole sodium) while at the same time acknowledging that NEXIUM® (esomeprazole magnesium) was previously approved. Thus, the policy rationale of the Hatch-Waxman Act weighs against an extension of the ’771 patent.



**C. Conclusion**


For the above-stated reasons, the application for patent term extension under 35 U.S.C. § 156 is **DENIED**. This is a final agency decision.

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RE: NEXIUM® I.V. (esomeprazole sodium)